

Appl. No. 10/798,299

Reply to Office Action of: December 13, 2005

REMARKS

Applicant wishes to thank the Examiner for reviewing the present application.

Applicant advises that the Attorney Docket number for the present application has changed, and indicated on page 1 of this paper, and kindly requests that the Office also amend its records to indicate this change.

Amendments to the Claims

Claim 5 is amended inserting "for receiving a portion of a patient to be imaged" at line 2.

Claim 21 is amending inserting "using an adjustment mechanism" at line 2, inserting "using said adjustment mechanism" at line 5, and to correct typographical errors. No new subject matter is believed to have been added by way of the above amendments.

Claim Rejections – 35 U.S.C. § 102

Claims 1-21 have been rejected under 35 U.S.C. § 102 as being anticipated by U.S. Patent No. 4,222,274 to Johnson. Applicant respectfully traverses the rejections as follows.

What Johnson teaches:

Johnson teaches an ultrasound imaging apparatus that uses a fixed base (32) on which is rotatably mounted a moveable carriage base (34) (see col. 4, lines 39-42). The carriage base (34) rotates about a stationary water tank (86), which is adapted to fit within the carriage (34) (see col. 5, lines 28-29). The water tank (86) has a fixed top plate (88), rigidly attached to support bars (82, 84), which are mounted on the fixed base (32) (see col. 5, lines 30-35). A vertical drive motor (66) is mounted within a chamber (64) of the carriage (34) and is connected by a shaft (68) to a circular ring of transducer arrays (70), whereby the motor (66) permits vertical movement of the transducer arrays (70) (see col. 5, lines 1-4).

Clearly, the tank (86) having a top plate (88) fixed thereto is also fixed relative to the overall structure having base (32). Only the carriage (34) and arrays (70) are moveable. A patient lying on the top plate (88) provides a pendant breast (98) (see Figure 1) into the water tank (86), and the carriage (34) rotates around the tank (86) to image the breast (98). Again, the plate (88) is fixed relative to the tank (86), and in fact are part of the same structure (see hatched

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lines in Figure 1). Accordingly, there is no mechanism provided by Johnson to enable an operator to adjust the tank (86) to accommodate, e.g., differently sized patients. Johnson is entirely silent in that regard.

Arguments Regarding Claims 1, 3-4:

Claim 1 is directed to a medical imaging system that comprises a patient support surface and an imaging apparatus. The imaging apparatus has a chamber to receive a portion of a patient and a support table that is located within the support surface. The support table has an aperture to permit positioning of the portion of the patient in the chamber and is adjustable relative to the support surface so that it can be located above the surface and thereby engage the portion.

Applicant respectfully submits that the Examiner has misconstrued the teachings of Johnson, and that Johnson fails to teach several features recited in claim 1 and thus cannot anticipate.

Firstly, claim 1 requires a support table that is adjustable relative to support surface. Johnson does not teach a support surface, and clearly does not teach a support table that is adjustable relative to such a support surface. In fact, as discussed above, Johnson explicitly teaches a fixed water tank (86) with a fixed plate (88). At most, the tank (86) could be considered equivalent to the chamber of claim 1, which is part of the support table. In that case, the support table of claim 1 would be equivalent to the plate (88). From this, it is then clear that Johnson does not teach a support surface as recited in claim 1, but rather appears to indicate that the plate (88) is in fact the support surface. In either case, the water tank (86) is clearly fixed, and is explicitly taught by Johnson as being fixed. Johnson does not even suggest that the tank (86) could be adjusted and makes no mention of a surrounding environment relative to which it is adjustable. The tank (86) is rigidly fixed to the base (32) by supports (82, 84) and provides no mechanism to enable an operator to adjust the tank (86).

Therefore, although Johnson does teach a chamber with an aperture (i.e. water tank 86), Johnson does not teach a support surface separate from a support table as recited in claim 1, let alone a support table that is adjustable relative to the support surface. Accordingly, Johnson clearly fails to teach every feature recited in claim 1, and as such cannot anticipate. Rejection under 35 U.S.C. § 102 is therefore inappropriate.

Claims 3-4 being ultimately dependent on claim 1 also cannot be anticipated by Johnson.

Arguments Regarding Claims 5-20:

Claim 5 is directed to an ultrasound scanner assembly having a base and a drum rotating on the base. Claim 5 is amended to clarify that the drum is "for receiving a portion of a patient to be imaged" so as to distinguish the drum from other features of the scanner assembly. This was implicit in the use of the term "drum" previously but is now explicit.

Claim 5 requires the assembly to have a transducer head that rotates with the drum and may be displaced relative to the drum along an axis parallel to the axis of rotation.

Applicant respectfully submits that Johnson does not teach a transducer head that rotates with a rotatable drum as recited in claim 5, and as such cannot anticipate.

As discussed above, Johnson clearly teaches a fixed drum (i.e. tank 86) and a transducer array (70) that moves about the fixed drum. In fact, Johnson not only shows this arrangement in the figures, but also explicitly states that the tank (86) is stationary (col. 5, line 28). Therefore, although Johnson teaches a transducer array that is vertically moveable, Johnson clearly does not teach a rotatable drum, let alone a transducer that moves with the drum. Johnson explicitly teaches a transducer array (70) that moves independent of a fixed tank (86) and thus clearly cannot anticipate claim 5. Rejection under 35 U.S.C. § 102 is therefore inappropriate.

Claims 6-20 being ultimately dependent on claim 5 also cannot be anticipated by Johnson.

Arguments Regarding Claim 21:

Claim 21 is directed to a method of monitoring a medical condition through insonification with ultrasound. The method includes the step of locating a portion of a patient in a scanner in a predetermined position. Claim 21 is amended to clarify that the predetermined position is effected using an adjustment mechanism so as to permit the acquisition of data in a repeatable manner. The method also includes the step of conducting a succession of scans of an area of interest at predetermined intervals while substantially maintaining the predetermined position. Claim 21 is also amended to clarify that the predetermined position is maintained using the adjustment mechanism. Claim 21 also includes the steps of transferring the scans to a remote location and then comparing time separated scans to determine changes in the medical condition.

Applicant respectfully submits that Johnson does not teach repeatedly positioning a portion of a patient in a predetermined position to permit acquisition in a repeatable manner.

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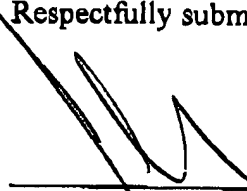
Johnson does not contemplate providing repeated adjustable positioning as required by claim 21. Moreover, Johnson does not teach comparing time separated scans to determine changes in a medical condition, but is entirely silent in that regard. For at least that reason, Johnson cannot anticipate. Claim 21 provides not only adjustability to provide comfort to the patient, but using an adjustment mechanism, the adjustable positions can be repeated to improve accuracy of the images. The increased accuracy then allows a more accurate analysis of the time separated scans to be able to monitor the medical condition. Johnson simply does not teach or contemplate such features, and thus, Applicant believes that Johnson does not anticipate claim 21. Applicant believes that the amendments to claim 21 serve to clarify this distinction and claim 21 is believed to be patentably distinguished over Johnson.

Summary

In view of the foregoing, Applicant respectfully submits that all pending claims, namely claims 1, 3-21 patentably distinguish over Johnson, and as such are in condition for allowance.

Applicant requests early reconsideration and allowance of the present application.

Respectfully submitted,



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